



January 30, 2008

Via Electronic Filing

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW, TW – A325
Washington, DC 20554

Re: WT Docket No. 07-195 – Notification of Oral Ex Parte Presentation

Dear Ms. Dortch:

On January 29, 2008, Dr. Paul J. Kolodzy, Senior Technology Advisor to M2Z and the undersigned met with Mr. Wayne Leighton, Advisor to Commissioner Deborah Taylor Tate. During the meeting, we discussed the AWS-3 proceeding and the responses to the 2155-2175 MHz NPRM. The macro view of our discussion is that the record supports a licensed approach with flexible and neutral technical rules as well as specific and enforceable public interest obligations for the eventual licensee.

Concerning potential interference, we noted that the Commission can easily look to its own precedent to set an appropriate level of interference protection that permits a variety of services in the band. To that end, M2Z is engaged in discussions with the parties with specific technical concerns on potential interference. M2Z is participating in conversations, hosted by CTIA, for its members to discuss technical rules and if possible arrive at a consensus. Participants in the CTIA led discussions include Verizon Wireless, AT&T, Motorola, Sprint Nextel, Qualcomm and Comcast. M2Z is also in talks with Terrestar and we continue to reach out to other entities with concerns regarding the 2155-2175 MHz technical rules. Our goal is to address outstanding technical concerns and come up with a solution that is amicable to all.

Enclosed are copies of the materials that we provided to Mr. Leighton.

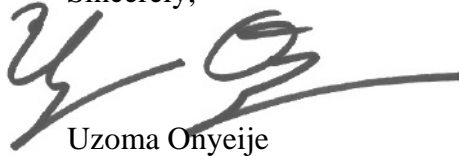
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Pursuant to Section 1.1206(b) of the Commission rules, an electronic copy of this letter is being filed. Please let me know if you have any questions regarding this submission.

Sincerely,

A handwritten signature in black ink, appearing to read 'Uzoma Onyeije', with a long horizontal stroke extending to the right.

Uzoma Onyeije

cc: Mr. Wayne Leighton

Enclosures: 6

Innovation. Freedom.

A Quick Summary of the AWS-3 Rulemaking WT Docket 07-195

A review of the record in the 2155-2175 MHz band leads to three key conclusions.

➤ **The record overwhelmingly supports exclusive licensing for the band.**

- Parties seeking unlicensed use have failed to address whether there is a need for additional unlicensed allocations, whether such uses would be technically viable, or how such a scheme would fund the transition of incumbent licensees.
- Rather than undoing years of allocation and relocation decisions by mandating unlicensed use, the Commission should swiftly move forward with licensing of the band.

➤ **Technical rules for the band should be technologically neutral and flexible.**

- Rules that are technically neutral and flexible are consistent with FCC practice and policy. For example, carriers have been afforded unlimited flexibility in the 700 MHz band including unpaired use at the licensee's discretion. Parties that are calling for a "downlink only" regime in AWS-3 are seeking a windfall for AWS-1 licensees and are looking to limit new entry for broadband competition.
- Incumbent licensees that oppose full flexibility and technological neutrality in AWS-3 are reversing course on their past advocacy for technical flexibility and neutrality as evidenced in their 700 MHz comments. For example, Verizon's advocacy for a "downlink only" use of the band is incontrovertibly inconsistent with its call for full technical flexibility in 700 MHz where both paired and unpaired use of spectrum is permitted without any guard bands being imposed.
- Incumbent licensees that oppose flexibility and neutrality are also reversing course on the definition of the FCC's "harmful interference" standard and ignore the use of accepted mitigation techniques for abating potential interference. T-Mobile and Verizon, for example, depart from their prior comments supporting a probabilistic examination of harmful interference issues (see H Block comments) and apply worst case analysis with no mitigation as a basis for determining service rules.

➤ **FCC should affirmatively promote the public interest in AWS-3.**

- The Commission has received overwhelming support for Public Interest Obligations to be included in the service rules for AWS-3 including:
 - the provision of free broadband service;
 - the filtering of indecent content on free broadband network;
 - open access/ wholesale requirements;
 - aggressive and enforceable build-out requirements;
 - spectrum aggregation limits and spectrum holding periods.
- Opposition to Public Interest Obligations come from carriers without any specific analysis or documentation of the cost benefit tradeoffs associated with the possible increase in consumer welfare from including the public interest obligations.
- The record has unrefuted economic analysis supporting the consumer surplus that would be created from applying the Public Interest Obligations on the AWS-3 band.

Proposed Rules for the 2155-2175 MHz Spectrum Band

Licensing Scheme

Licensed

- Aircell
- ArrayComm
- AT&T
- BWP
- Consumer Electronics Association
- County Executives of America
- CTIA
- Ericsson Inc
- Family Research Council
- HEWAC/College Parents
- ICO
- iKeepSafe
- Intel
- Leap Wireless
- M2Z
- MAP, Free Press, Public Knowledge & New America Foundation
- MetroPCS
- Minority Media Telecommunications Council/Rainbow Push Coalition
- National PTA
- NATOA
- NTCA
- Qualcomm
- Simon Wilkie
- Sprint Nextel
- TDS/US Cellular
- TerreStar
- Vermont Telecom Authority
- WCA

Unlicensed

- NetFree
- Nextwave
- Tropos

Technical Rules

Flexible Use

- ArrayComm
- BWP
- College Parents/HEWAC
- County Executives of America
- CTIA
- ICO
- iKeepSafe
- Intel
- M2Z
- MAP, Free Press, Public Knowledge & New America Foundation
- Minority Media Telecommunications Council/Rainbow Push Coalition
- Motorola
- National PTA
- Qualcomm
- Sprint Nextel
- WCA

Command & Control

- Aircell
- AT&T
- Ericsson Inc.
- Leap Wireless
- Terrestar
- T-Mobile
- Verizon Wireless

Public Interest Obligations

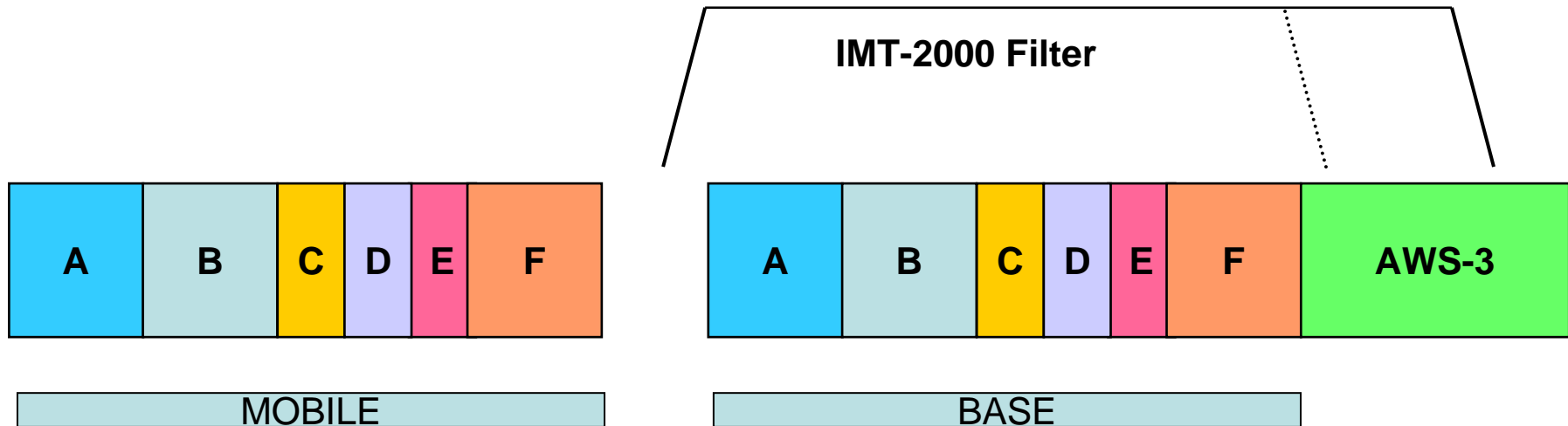
Specific & Enforceable

- BWP
- Coalition for Free Broadband
- College Parents/HEWAC
- County Executives of America
- Electronic Retailing Association
- iKeepSafe
- Lee Yancey
- M2Z
- MAP, Free Press, Public Knowledge and New America Foundation
- Minority Media Telecommunications Council/ Rainbow Push Coalition
- National PTA
- NATOA
- Vermont Telecomm Authority

Oppose Detailed Commitments

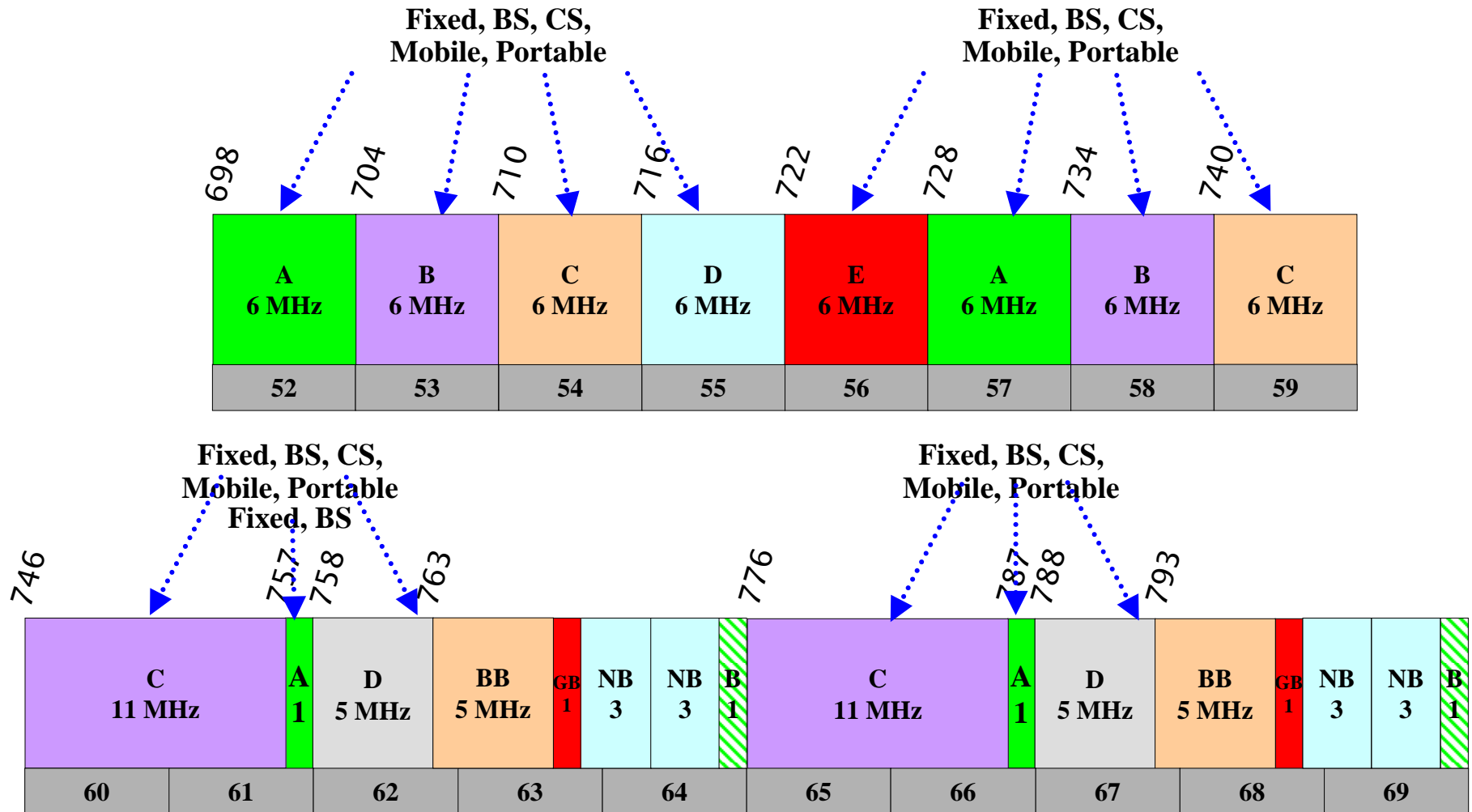
- AT&T
- Consumer Electronics Association
- CTIA
- Intel
- Leap Wireless
- Metro PCS
- Sprint Nextel
- TDS/ US Cellular
- TerreStar
- WCA

AWS Band Plan



700 MHz Band Plan

Part 24 Rules



BB - Public Safety Broadband, NB - Public Safety NarrowBand,
GB - Guard Band

Document: WiMAX Forum Mobility Certification Profile Submission Template 01-10-06-doc

Working Group	WiMax forum Technical working Group	
Title	TDD certification profile for the 700 MHz band (Release 1.0)	
Number		
Source(s)	<p>Philippe Sehier Alcatel Lucent</p> <p>Eugene Crozier SR Telecom</p> <p>Ambroise Popper Sequans</p> <p>Peter_Stewart PMC-Sierra</p>	<p>Voice: +33 1 30 77 18 94 Fax: +33 1 30 77 24 74 philippe.Sehier@alcatel-lucent.fr</p> <p>Voice: +1 425 881 7313 Fax: 514 956 4425 eugene_crozier@srtelecom.com</p> <p>Voice: +1 (650) 862 0845 Fax: +1 ambroise@sequans.com</p> <p>Voice : +1 604-415-6736 Peter_Stewart@pmc-sierra.com</p>
Membership	Are proposing organizations listed above WiMAX Forum members? Yes[X] No[]	
Abstract	We are proposing an additional system profile in the sub 1 GHz frequency bands. The first frequency band to be 700 MHz.	
Notice	This document is a proposal by the authors submitted to WiMAX Forum as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.	
Reference	<p>- [IEEE Standard. 802.16e] [section x.y.z]</p> <p>- Requirements and Recommendations for WiMAX Forum Mobility Profiles dated</p>	
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Other	
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1 Introduction

The SPWG Requirements and Recommendations for Rel 1.x WiMAX Forum™ Air Interface ballot version 1.1 includes spectrum requirements for the 700MHz bands for TDD and FDD duplexing modes.

It has been agreed that the FDD certification profiles are defined within the release 1.x project, while the new TDD profiles should be kept in release 1.0. This is agreed under the assumption that the new profiles do not require any adaptation of the existing R1.0 system profile and PICS.

This documents introduces new TDD profiles in the 700MHz band, taking into account requirements and allocation scenarios from all regions of the world.

2 Profile information

Table 1 provides the SPWG spectrum requirements for TDD systems. Only profile 5a is covered in this profile submission form.

Band Class Index	Frequency Range (GHz)	Mandatory Channel size (MHz)	Optional Channel size (MHz)	Channel Raster (kHz)
1a	2.300 - 2.400	5 & 10 & 8.75		250
2a	2.305 – 2.320 & 2.345 – 2.360	3.5 & 5 & 10		250
3a	2.496 – 2.690	5 & 10,	20	250
4a	3.300 – 3.400	5 & 10	7	250
5a	3.300 – 3.800	5 & 10	7	250
6a	0.698 - 0.806	5 & 10		250

Table 1 : Common Spectrum Requirements for TDD Systems

Requirements for Band Class 6a:

- Frequency Range of 0.698 – 806 GHz SHALL be supported
- Rel 1.x profile set for the MS SHALL support 5 & 10 MHz channel sizes.
- The frequency raster SHALL allow 250 kHz increments in center frequency.

2.1 Target Regions

Outcome of WRC'07

A new primary mobile allocation was made in the band **790-862 MHz in region 1**, effective from June 2015. However, in many countries the mobile allocation is, via footnotes, already effective

A new primary mobile allocation was made in **region 2** in the band **698-806 MHz**

The identification for IMT of the band **790-862 MHz** is valid for **region 3** countries where this band is already allocated to mobile services

In addition a specific identification of the band **698-790 MHz** has been made for some **region 3** countries (including India, china, India, Japan, Korea, Singapore)

Those parts of the band 698-960 MHz in region 2 and 790-960 MHz in region 1 and 3 which are allocated to the mobile service on a primary basis are identified for IMT

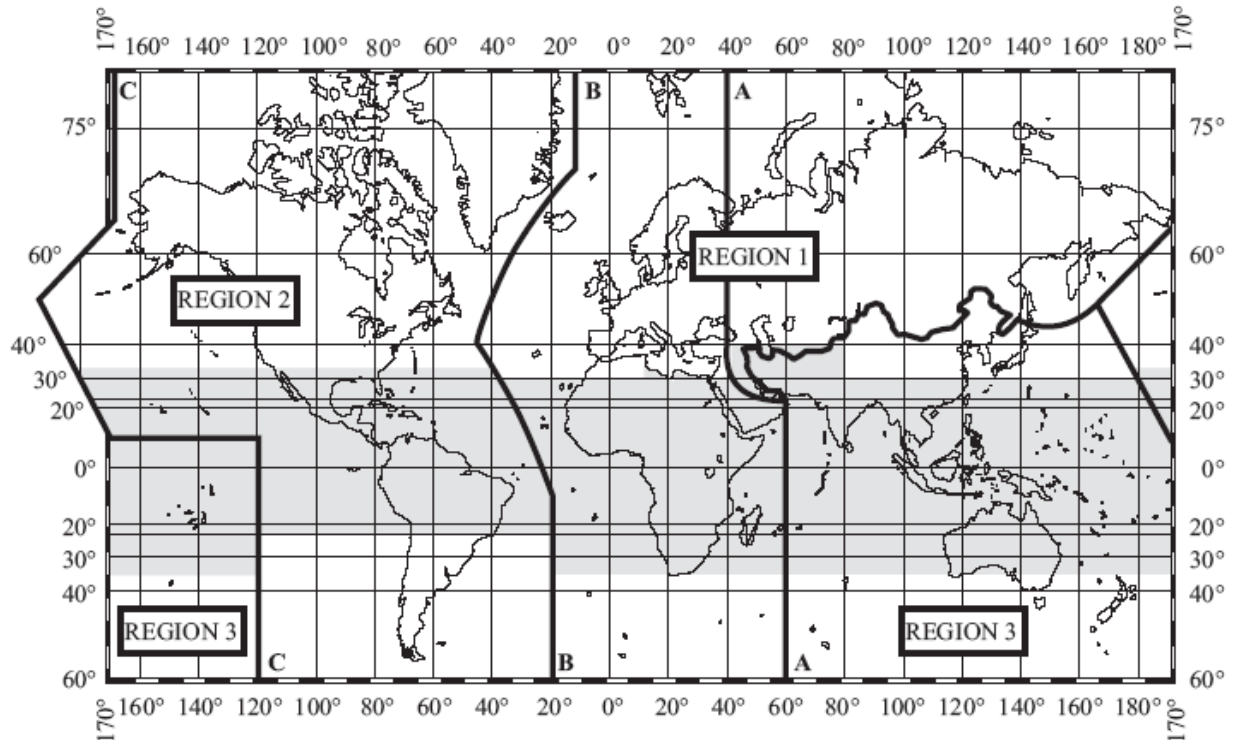


Figure 1 : Regions definition

The following additional information on status in different countries is available :

- Canada:
 - Available spectrum in rural areas can be allocated on a first come/ first serve basis
- India
 - India Government is carrying a study on the subject
 - No time line set up right now for the decision
 - It is likely that India will follow the FCC band plan
- Germany
 - Landers have authority on the spectrum usage

- On going proposal for a trial based on demonstrator
- France
 - CCR study group to make proposal for ARCEP
 - Request of 150 MHz for Mobile BB

2.2 FCC status

Currently, FCC is the most advanced in the definition of spectrum organization and allocation, and will therefore be used as the main guideline for the definition of the profile

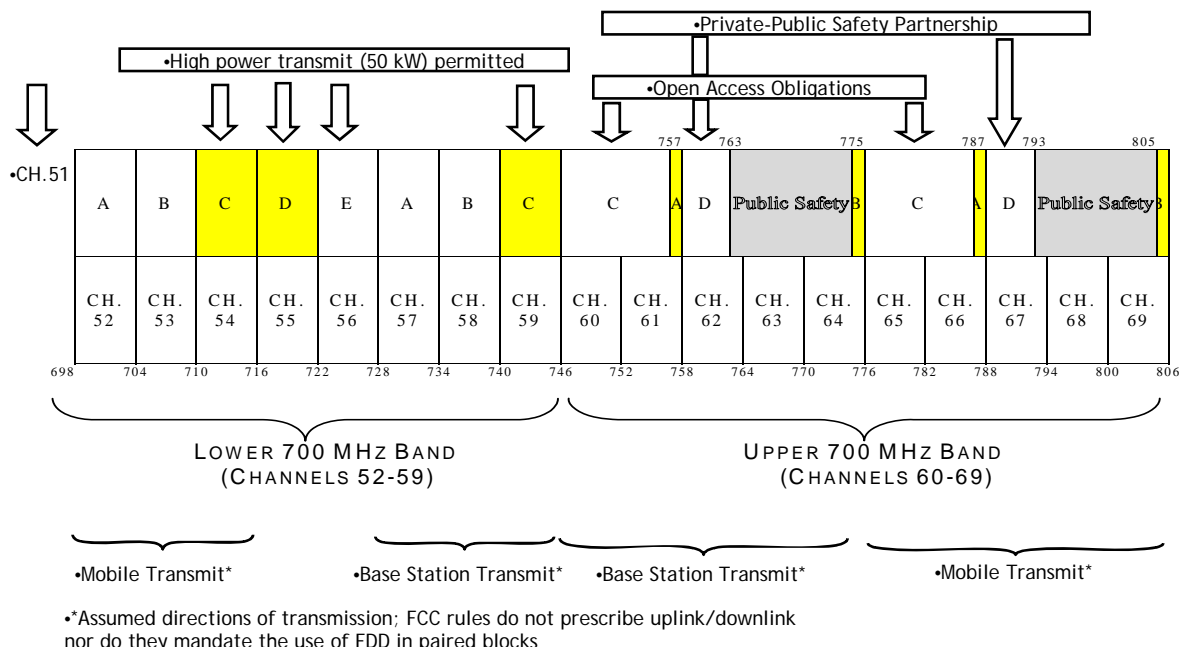


Figure 2: FCC 700 MHz spectrum Allocation

The FCC has portioned the band into “lower” and “upper” 700MHz bands as represented in Figure 2. the lower band (698-746 MHz) consists of eight 6 MHz blocks, 6 of which are paired blocks, and two unpaired blocks (blocks D and E) that are designed for aloha Broadcast (block D), while block E is not auctioned yet.

Since they consist of two paired channels, all but two of the licenses allocated in the US lower and upper 700 MHz band will support either Frequency Division Duplex (FDD) or Time Division Duplex (TDD). Further, since the FCC rules allow for flexible use in this band, operators holding these licenses have an additional degree of deployment flexibility.

Key services rules are:

- Open Access
 - Upper 700 MHz C Block Licensee
 - “will be required to allow customers, device manufacturers, third-party application developers, and others to use any device or application of their choice on their networks in this band, subject to certain conditions”

- Private-Public Safety Partnership

“Commercial (D Block) licensee will build out a nationwide, interoperable broadband network for the use of public safety.”

“Under the Partnership, the Public Safety Broadband Licensee will have priority access to the commercial spectrum in times of emergency, and the commercial licensee will have preemptible, secondary access to the public safety broadband spectrum.”

Private and Public Safety partners will negotiate a network sharing agreement. FCC will arbitrate if no accord reached within six months
- Base Station Power Limits
 - Rules permit 50 kW base station power in lower band D, E, and incumbent C Block licenses
- Performance (Build-Out) Requirements
 - Geographic based benchmarks for Cellular Market Area (CMA) and Economic Area (EA) licenses : 35% in four years; 70% in ten years
 - Population based benchmarks for Regional Economic Area Grouping (REAG) licenses : 40% in four years; 75% in ten years
 - If interim benchmark missed, license term reduced from 10 to 8 years
 - If final benchmark not met, FCC will reclaim un-served portions

Key concern in lower 700 MHz band is interference from high power broadcast transmissions in D (MediaFLO), E, and incumbent C Blocks; also from broadcast channel 51

- Internal guard bands may be required in blocks adjacent to high power transmissions.
- In the upper band, there is the potential for interference between commercial and narrowband public safety operations

Interference between mobiles is a possibility that requires further study. Terminal (mobile) manufacturers have expressed concern over the available duplex spacing and its impact on filter requirements

2.3 Target Bands

It is considered that allocating only the unpaired blocks C and D in the lower band would not result in a profitable business case.

Additionally, high power emissions authorized in some parts of the lower band would cause significant interference problems in case this band is shared with high power emissions.

For these reasons, it is proposed to define 2 TDD profiles, each covering the whole lower/higher band :

- 5A1 : whole lower band (698-746 MHz)
- 5A2 : whole upper band (746-806 MHz)

[this has to be considered as an initial proposal. Subdivision and reduction of these 2 profiles will probably have to be decided, based on technological constraints, and spectrum availability in various countries]

Future profiles to cover the band up to 862 MHz will have to be included when the visibility on availability will be better.

2.4 Regulations

TBD

2.5 Applications

Refer to the MWG paper under development

Note : Marketing working group is currently developing a white paper covering market volume, usage scenarios, ecosystem and business models. This paper should provide all the inputs required for this certification profile proposal.

2.6 Target Markets

Refer to the MWG paper under development

2.7 Market Size

Refer to the MWG paper under development

2.8 IP rights

N/A

3 Technical Description

3.1 Top Level Parameters

Item	Description	Value
1	Frequency band	5A1 :698-746 MHz 5A2 : 746-806 MHz
2	Channel bandwidth	5 and 10 MHz
3	Duplexing mode	TDD